

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 05/20/08 have been fully considered but they are not persuasive.

Regarding the Moody '376 reference, Applicant argues that the "conical core 27" of the pump turbine of Moody '376 does not minimize pressure variation as the elongated displacement unit of the application does, and the pump turbine of Moody '376 is reversible and therefore, Moody '376 fails to disclose an elongated displacement unit.

The Examiner respectfully disagrees.

First, Moody '376 discloses all the claim limitations of independent claims 8 and 19. Therefore, Moody '376 anticipates the claims. Secondly, Applicant argues about the function of the elongated displacement unit that is not positively recited in any of the claims. Even if this function of the elongated displacement unit is recited in the claims, this limitation would be treated as purely intended used and is not given patentable weight. In addition, it is worthwhile to note that pump turbines are reversible.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 8, 10-15, 19, 22- 26, and 28-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Independent claims 8 and 19 each recites “a water turbine or a water pump turbine” which are non-equivalent alternative. A pump turbine can certainly functions both as a turbine in one flow direction and as a pump in the reversed flow direction. However, a plain water turbine cannot function as a pump.

Claims 10-15, and 28-30 are indefinite as being dependent on claim 8, and 22-26 are also indefinite as being dependent on claim 19.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 8, 14, 15, 19, 25, 26, and 28-30, as far as they are definite, are rejected under 35 U.S.C. 102(b) as being anticipated by Moody (1,919,376) which from now on referred to as Moody '376.

Moody '376 discloses a pump turbine (Figs. 1-18) comprising: a runner having one or more rotor blades and a hub (Fig. 1); a housing having a distributor 21 that regulates flow of the medium into the runner; a pipe 28 that guides the medium flowing out from the runner and having an inlet diffuser; and an elongated displacement unit 27 in the draft tube and having an upstream end in proximity to the hub, wherein the displacement unit has a variable width (Fig. 1); wherein the width of the displacement unit increases in the direction of flow of the medium (Fig. 1);

wherein the pipe runs along a substantially straight line (Fig. 1); and

wherein the pipe is curved (Fig. 1).

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5. Claims 8, 11, 14, 15, 19, 23, 25, 26, and 28-30, as far as they are definite, are rejected under 35 U.S.C. 102(b) as being anticipated by Moody (1,690,237) which from now on referred to as Moody '237.

Moody '237 discloses a turbine (Figs. 1-3) comprising: a runner having one or more rotor blades 45 and a hub (Fig. 3); a housing having a distributor 42 that regulates flow of the medium into the runner; a pipe 46 that guides the medium flowing out from the runner and having an inlet diffuser; and an elongated displacement unit 53 in the draft tube and having an upstream end in proximity to the hub, wherein the displacement unit has a variable width (Fig. 3); wherein the width of the displacement unit increases in the direction of flow of the medium;

wherein the displacement unit is supported by rods 51 connected to the pipe;

wherein the pipe runs along a substantially straight line (Fig. 1); and

wherein the pipe is curved (Fig. 1).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 10 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moody '376.

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Moody '376 discloses all the limitations including the displacement unit 27 extends up to the hub (page 2, lines 126-129). However Moody does not disclose the distance between the hub and the upstream end of the displacement tube is not between 0.5mm and 50mm as claimed.

Since the applicant has not disclosed that having the distance between the hub and the upstream end of the displacement tube is not between 0.5mm and 50mm solves any stated problem or is for any particular purpose above the fact that the upstream end of the displacement unit needs to be closed to the hub to form a smooth flow path (Moody page 2, lines 126-129), and it appears that the displacement unit of Moody would perform equally well with the distance to the hub within the range as defined and claimed by applicant, it would have been an obvious matter of design choice to modify the displacement unit of Moody by utilizing the specific distance range as claimed.

Allowable Subject Matter

8. Claims 12, 13, and 24 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Ninh Nguyen whose telephone number is (571) 272-4823. The examiner can be normally reached on Monday-Friday from 7:30 A.M. to 5:00 P.M.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached at (571) 272-4820. The fax number for this group is (571) 273-8300.

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**/Ninh H. Nguyen/
Primary Examiner, Art Unit 3745**

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06/09/08